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Ansong, J., McElduff, L., & Ritchie, H. (2021). Institutional integration in transboundary marine spatial planning: A theory-based evaluative framework for practice. *Ocean and Coastal Management*, 202(0), 1-12. [105430]. <https://doi.org/10.1016/j.ocecoaman.2020.105430>

[Link to publication record in Ulster University Research Portal](#)

Published in:
Ocean and Coastal Management

Publication Status:
Published (in print/issue): 01/03/2021

DOI:
[10.1016/j.ocecoaman.2020.105430](https://doi.org/10.1016/j.ocecoaman.2020.105430)

Document Version
Author Accepted version

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Institutional Integration in Transboundary Marine Spatial Planning: A theory-based evaluative framework for Practice

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Abstract

The governance of shared waters involves complex interactions between actors and institutions embedded in different legislative approaches, cultures and administrative procedures. Marine Spatial Planning can address the transboundary dimension of marine governance, based on its potential to foster integration between sectoral agencies, regulatory bodies and local stakeholders when making decisions about the distribution of coastal and maritime uses. Coordination between activities and practices of actors in planning transboundary areas is imperative in advancing sustainability. This paper seeks to make a contribution to the evolving field of MSP by expanding the dimensions of integration in MSP to consider institutional integration. In doing so, the paper reviews pivotal literature on MSP and makes an argument that existing studies on integration in MSP are structured in an inductive manner and focused on national and sea-basin cases. In response to addressing these gaps, we used the social systems theory and related theories, as an overarching and valuable lens to understand the institutional challenges of planning across maritime borders. Based on these lenses, we present an evaluation framework that uses the metaphor of a ‘wheel’ to indicate iterative stages (observation, initial impact, response, recovery and stabilisation) that are shaped by dimensions including structural alignment, self-oriented action, collaborative capacity. This is followed by discussion about the potential application and next steps for enhancing the utility of the framework. In conclusion, the paper adds to the growing discourse on transboundary MSP by presenting a deductive framework that can be applied to different context and multi-governance levels to understand institutional integration.

Key words: Marine Spatial Planning, Transboundary, Integration, Social Systems Theory, Evaluation Framework

35 **1 Introduction**

36 Marine Spatial Planning (MSP)¹ is one approach of many, used for marine governance amongst
 37 others such as conservation planning, ecosystem-based management (EBM), and integrated
 38 coastal zone management (ICZM). Comparatively, MSP has gained popularity over the last two
 39 decades with over 20 government-approved marine spatial plans instituted to legitimise the
 40 development of maritime activities, reduce conflicts and enhance synergies between sectors (Ehler
 41 et al., 2019; Iglesias-Campos et al., 2015). Maritime activities continue to grow exponentially;
 42 maritime transport is responsible for 80% of world trade, offshore renewable energy output
 43 increased by 21.7% (MW) between 2003–2008 in Europe, whilst the global total capacity of cables
 44 increased at a compound growth rate of 57% between 2007 and 2011 (Gee et al., 2019; UNCTAD,
 45 2018). The compound annual growth rate of global aquaculture industry is expected to increase by
 46 4.46% between 2018 and 2022 (Technavio, 2018). Traditional maritime uses including maritime
 47 transport, fishing and emerging uses, such as offshore grid connections, are mobile, spatially
 48 heterogenous and span multiple maritime jurisdictions. The continuous growth and transboundary
 49 nature of maritime activities calls for increased coordination between regulatory and sectoral
 50 agencies for effective planning across borders. There have been continuous calls to consider the
 51 transboundary nature of maritime activities and integration² in MSP (Papageorgiou & Kyvelou,
 52 2018; Rus, 2012). In response to these calls and legislative drivers such as the EU MSP Directive
 53 2014/89/EU, there are on-going development of institutions, concurrent co-development of
 54 science and evidence in MSP practice.

55
 56 However, various MSP discourses show that despite the growing attention on MSP, there remains
 57 a gap between what MSP sets out to do in theory and actual gains in practice. The integrative
 58 ability of MSP has been critiqued and labelled as ‘post-political’, in the sense that it fails to address
 59 multi-sectoral objectives and largely re-enforces previous fragmented decision-making processes
 60 (Tafon, 2018). Echoing this, Ritchie & Ellis (2010) and Flannery et. al (2018) have highlighted

¹ Also known as Maritime Spatial Planning, Marine Planning or Coastal and Marine Spatial Planning

² Vince and Day (2020 p.2) defines integration as” a decision-making process designed for multilevel governance and the involvement of multiple actors, with the potential for these to be applied across multiple timeframes”.

the limited citizen participation, subjectivity, and top down nature of stakeholder engagement and consultation. Similarly, Morf et al. (2019) noted that the much-acclaimed idealistic stance of inclusive participation does not work in practice due to limited time and resources especially when preparing first generation plans. Fairbanks et al. (2019) critiqued the limited broad public scrutiny of MSP and its overemphasis on addressing spatial contentions between sectors such as shipping and fisheries. Boucquey et al. (2016) examined the ontological politics of MSP and concluded that human communities are marginalised due to inadequate socio-natural evidence. Kelly et al. (2018) have argued for radical institutional change through a transitional management approach. Jentoft (2017) argues that MSP needs innovative institutional restructuring to facilitate the integration of stakeholder's interests and knowledge, especially least powerful stakeholders such as small-scale fishers and coastal communities.

Studies that investigate integration in MSP have tended to focus on national cases mostly in the UK, Europe, Australia and North America (Vince & Day, 2020; Smythe, 2019; Portman, 2011). Understanding conditions that affect how MSP institutions are adopting or adapting MSP policies, especially in transboundary areas is critical in addressing conflicting governance frameworks. This paper aims to promote the understanding of transboundary MSP by firstly identifying knowledge gaps with regards to transboundary MSP and integration and secondly, presenting an evaluation framework for institutional integration based on theoretical perspectives.

In order to do this, we first discuss the approach that was used in developing this literature review-based theoretical contribution. This is followed by an overview of key MSP integration frameworks and literature. We then provide an in-depth review of transboundary MSP literature to determine the evolution of research development and detect existing knowledge gaps. The fourth section discusses theoretical perspectives from Social Systems Theory (SST) and related theories to conceptualise transboundary institutional integration. The evaluation framework, as our main contribution is then presented in the fifth section by drawing on internationally-recognised examples. The potential application of the framework is discussed in the penultimate section whilst the concluding section discusses the next steps for advancing the framework.

2 Method and Approach

91 The approach for developing the evaluation framework was in three main steps (Figure 1). The
 92 first step involved understanding the current state-of-the-art research on MSP, integration and
 93 related frameworks to detect knowledge gaps and research needs. In order to develop an in-depth
 94 understanding of integration with a transboundary MSP focus, we reviewed transboundary MSP
 95 literature and their discussion of institutional integration. Research articles were searched using
 96 Scopus³ database for an unlimited time frame. The search and selection of articles were performed
 97 using the following search strings terms: (“transboundary”) or (“cross-border”) AND (“marine
 98 spatial planning”)⁴ and (“transboundary”) or (“cross-border”) AND (“maritime spatial
 99 planning”).⁵ The titles, abstract and full text of the articles were reviewed to select peer-reviewed
 100 articles that focused on the practical application and implementation of MSP and explored
 101 institutional integration and transboundary engagement for MSP practice. Articles which were
 102 duplicated in the two-search combinations were removed and this resulted in ten research articles
 103 which were reviewed. While it is acknowledged that grey literature such as project reports and
 104 books were not included in analysing the state-of-the-art research on MSP, it is contended that
 105 peer-reviewed articles are considered the most prominent and current in the field influencing
 106 normative thinking. However, many of the examples used are from grey literature and project
 107 documents.as they are current examples in practice. To conceptualise the framework that is

³ Elsevier’s internationally recognised database

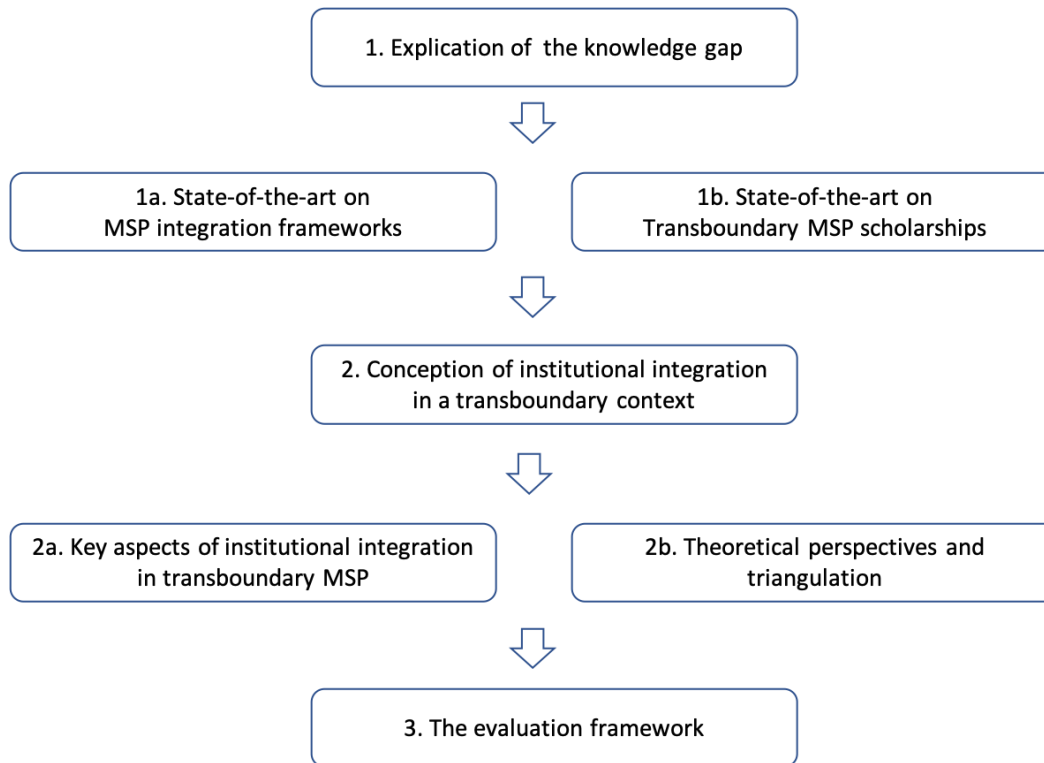
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presented, we defined three key aspects of transboundary institutional integration and related theoretical perspectives.⁶ The three theories were reviewed and triangulated by drawing on Ostrom (2011) and Perner & Skjølsvik (2018) frameworks for institutional analysis to derive key stages and dimensions that shapes institutional integration.



3 Institutional Integration and Transboundary MSP

3.1 Previous MSP integration frameworks

Fragmentation within marine governance has been discussed widely, categorised under institutional fragmentation (see Ritchie & Ellis, 2010; Hassler et al., 2018; Flannery, 2015; van Tatenhove, 2017), conceptual fragmentation (van Tatenhove, 2017; Janßen, et al., 2018), temporal fragmentation (Keijser, 2018; Kull et al. 2019; Morf et al., 2019) amongst others. Integration in MSP has been identified as one of the key approaches and not an end in itself to address fragmented decision-making and enhance multi-governance interactions (Kidd et al., 2020; Saunders, 2019). Reviewing key MSP integration frameworks and literature shows that the definition, dimensions and conception of integration vary between MSP authors. However, there are common themes and dimensions which reflect the multi-dimensional aspects (across sectors, governance levels and

⁶ Social Systems Theory, Evolutionary Governance Theory and Complex Adaptive Systems

scales) of integration. For instance, Kidd (2007) identified the dimensions of integration as sectoral integration; territorial integration; and, organisational integration. On the other hand, Dickinson et al. (2010 p.28) identified integration as one of the principles of MSP that occurs at different levels including intersectoral, intergovernmental, spatial, science-management, international and sustainable development. Portman (2011) examined how scale and scope of marine plans and projects in the US, Portugal and the UK influenced the levels of integration that was achieved in practice. The dimensions of integration identified were physical (spatial and temporal layout of uses), multi-governance levels (inter-sectoral, intergovernmental management authorities, jurisdictions, policies, and legislation) and science-policy integration. Kidd and McGowan (2013) explored stakeholders' motivation for transnational partnership to support MSP in the Irish Sea by expanding stakeholder integration. They presented a five-rung ladder towards transboundary partnership. Alternatively, Saunders (2019) presented an integrative analytical framework that defined cross-border, policy/sector, knowledge, stakeholder and temporal dimensions as expressions of integration challenges in MSP practice. Ritchie et al (2019) building on the three integration dimensions by Kidd (2007), identified transboundary integration as a fourth dimension and advocated for a deeper understanding of how transnational and international institutions can facilitate formal transboundary MSP process. Vince and Day (2020) suggested a framework for determining effective integration in MSP by building on the work of Dickinson et al. (2010). They stressed that the definition of effective integration in MSP should go beyond traditional dimensions such as cross-sectoral, cross-cultural, intra-agency, intra-government, cross-jurisdictional, to include novel dimensions such as intergenerational, cross disciplinary/interdisciplinary, broad scale, with a focus on social capital, integrative capacity, place-based values, and cumulative impacts.

Beyond the above literature that presented a framework for MSP integration, dimensions such as stakeholder integration in transboundary context (Morf et al. 2019), knowledge integration (Jentoft, 2017) and transboundary integration (Moodie et al. 2019) have enjoyed in-depth case studies. Conversely, results from the analysis indicates that organisational integration identified by Kidd (2007) remains understudied in MSP research and practice. We expand that further to include the institutional aspects of integration given its importance in addressing conflicting governance frameworks and effective delivery of other dimensions of integration (Kidd, 2007;

Ritchie et al., 2019). Here we share Moroni's (2010, p 3) definition of institutions as 'the rules of the game' whilst organisations represent its 'players'. Institutions in this case, ensure that there is pattern-coordination among individual actions and practices of organisations. In order to gain in-depth understanding of institutional integration in transboundary MSP, we explore how it has been discussed in transboundary MSP scholarships in the next section.

3.2 *Evolution of Transboundary MSP discourse*

For the purpose of this paper, we define transboundary MSP as engagement between multiple entities (e.g. countries, states, provinces, organisations) at various levels of governance and across borders to make decisions about the spatial and temporal ordering of maritime uses. With the aim of expanding our conception and understanding of institutional integration in transboundary MSP, we reviewed research articles based on the timeline of practice development (Figure 2) and the institutional issues that were discussed (Table 1).

Early studies on transboundary MSP (between year 2011 to 2015) mainly assessed existing national and sea basin legal, institutional frameworks, and transboundary conservation initiatives to inform how transboundary MSP can be conducted. For instance, Backer (2011) reviewed the evolution of national and international legal framework in the Baltic Sea and stressed that different political ideologies and planning traditions of institutions can affect the success of transboundary MSP practice. Backer (2011) recommended that transboundary engagement between actors should be transparent and open to expose different national assumptions and interests. Mackelworth (2011) after reviewing transboundary conservation initiatives⁷ recommended that political support beyond political time frames was critical for successful transboundary initiatives. Kerr et al. (2014) examined land-sea interface as a transboundary area for renewable energy in Scotland. They advocated for clear lines of accountability and appropriate local stakeholder participation as means to reduce risk and stakeholder protest. Flannery et al. (2015) investigated political and institutional

⁷ Including Wadden Sea Area (Denmark, Germany and Netherlands), International Marine Park of the Mouths of Bonifacio (France and Italy), Red Sea Marine Peace Park, Turtle Islands Heritage Protected Area, Mesoamerican Barrier Reef System, Pelagos Sanctuary for Mediterranean Marine Mammals (Ecuador), Marine Conservation Corridor of the Tropical Eastern Pacific, Marine Peace Park Korea and Coral Triangle

conditions that can expedite transboundary MSP on the island of Ireland. They supported the role of transboundary institutions and body to instigate joint solutions and advance transboundary MSP.

As transboundary MSP practice increased through pilot projects, studies from 2016 to 2019 started exploring good practices on transboundary MSP and focused on transboundary integration and procedures for transboundary MSP. For instance, Jay et al. (2016) examined the transboundary dimensions of MSP based on experience from the TPEA⁸ project between France, Ireland, Portugal, Spain and the UK. They highlighted that disparities in institutional frameworks makes it arduous to implement transboundary MSP and recommended enhanced interrelations between actors and organisations. Van Tatenhove (2017) reviewed transboundary MSP projects in Europe and argued that the national and rule-directed institutional approach to MSP are not being challenged by actors due to limited political and knowledge capabilities. Platjouw (2018), after comparing legal structures and policies in Netherlands and Norway, recommended a deeper understanding of path dependent cultural, social and policy variations that impedes institutional coordination. Janßen et al. (2018) examined practices and procedures for transboundary MSP interactions based on the output of the Baltic Scope and BaltSpace Project. They argued for increased transboundary integration and regular interactions between stakeholders across borders. Similarly, Morf et al. (2019) investigated transboundary stakeholder integration in the Baltic Sea and identified different institutional settings and vertical integration gaps as some of the obstacles while recommending that institutional interactions should be deepened. Moreover, good practices identified by Kull et al. (2019) reiterated instituting transboundary dialogue, discussion and learning between actors.

Table 1: Reviewed articles on cross-border and transboundary MSP

No.	Authors & Title	Thematic Consideration		
		Objective/Focus	Conclusion	Recommendation
1	Backer (2011)	Reviewed the evolution of national and international legal framework in the Baltic Sea	Differences in governance arrangements presents challenges	Transparent & open dialogue process
2	Kerr et al. (2014)	Examined land-sea interface as a transboundary area for renewable energy in Scotland	Differing priorities, institutional and legal frameworks make full integration between terrestrial and marine planning impossible	Increased communication, accountability & local stakeholder participation

⁸ Transboundary Planning in the European Atlantic

3	Jay et al. (2016).	Examined the transboundary (TB) dimensions of MSP based on experience from France, Ireland, Portugal, Spain and the UK	Increased focus on understanding governance framework is needed	Enhance interrelations between actors & organisations
4	Mackelworth, (2012)	Reviewed TB conservation initiatives to inform MSP	Combining conservation and economic opportunities can spark political interest	Sustaining governmental and political interest
5	van Tatenhove, (2017)	Reviewed TB-MSP projects in Europe based on reflexive governance lenses	TB-MSP institutional rules are not being challenged	Enhance conditions of rule-altering politics, knowledge production, bordering capabilities
6	Flannery et al. (2015)	Investigated political and institutional conditions that can expedite TB-MSP on the island of Ireland.	Critical to foster cooperation between sub-national actors	MSP remit for an appropriate supranational body
7	Janßen et al. (2018)	Examined practices and procedures for TB-MSP interactions based on the output of the Baltic Scope and BaltSpace Project	Formal transboundary consultations were found to be too focused on environmental issues than other multi-objective issues	Increased institutional capacity and continuous TB engagement
8	Morf et al. (2019)	Investigated TB stakeholder integration in the Baltic Sea by identifying challenges and enablers	Differing institutional settings, vertical integration, limited capacity, awareness and knowledge about MSP, limits transboundary stakeholder integration	Facilitating resources, capacity, TB principles and innovative engagement techniques
9	Kull et al. (2019)	Identified good practices from non-EU transboundary MSP projects and BalticScope project	Different governance structures, disparity between planning systems, differing levels of stakeholder engagement limits TB-MSP	Fit for purpose framework that enables TB dialogue and learning
10	Platjouw (2018)	Assessed the compatibility between environmental legal structures and policies in Netherlands and Norway	Differences in the application of sectoral policies can influence TB-MSP application	Understanding different governance arrangements

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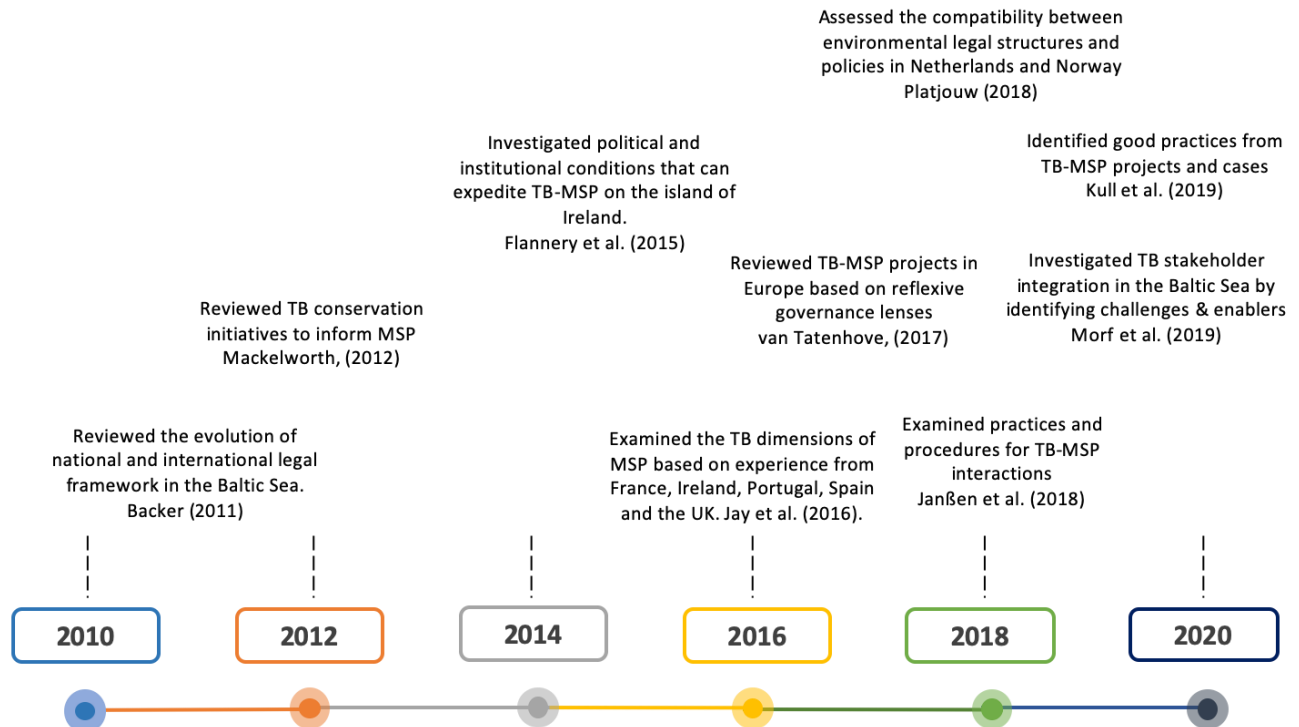


Figure 2: Timeline of transboundary MSP practice development and institutional issues

The results from our analysis of the above literature illustrates the inductive, national and sea-basin focused nature of transboundary MSP scholarships. Most of the studies have covered the Baltic, North and Irish Sea with other examples in the Western Pacific Ocean and the Antarctic. In effect, deductive studies that presents a more overarching theory and related framework is needed. Secondly, understanding of the co-evolution of institutions and adaptation in a transboundary context has known little reception in MSP research. We proceed to conceptualise our understanding of institutional integration with a transboundary focus in the next section.

4 Theoretical perspectives for developing the evaluation framework

To develop an evaluation framework, inspiration is drawn from three key aspects of institutional integration and transboundary MSP including; interaction between differing planning systems and institutional frameworks, the evolution of organisations and institutions in MSP practice and finally the complex environment and interactions between actors. To promote a deductive understanding of transboundary MSP, we draw from the broad umbrella of the Social Systems Theory and complimentary theoretical lenses that reflect the three key aspects. This is also in

response to the systemic and multi-dimensional nature of institutional integration (Kelly et al., 2018 p.27) and the need for integrative capacity for actors to address fragmentation at various governance levels (Vince & Day, 2020; Ansong et al., 2019).

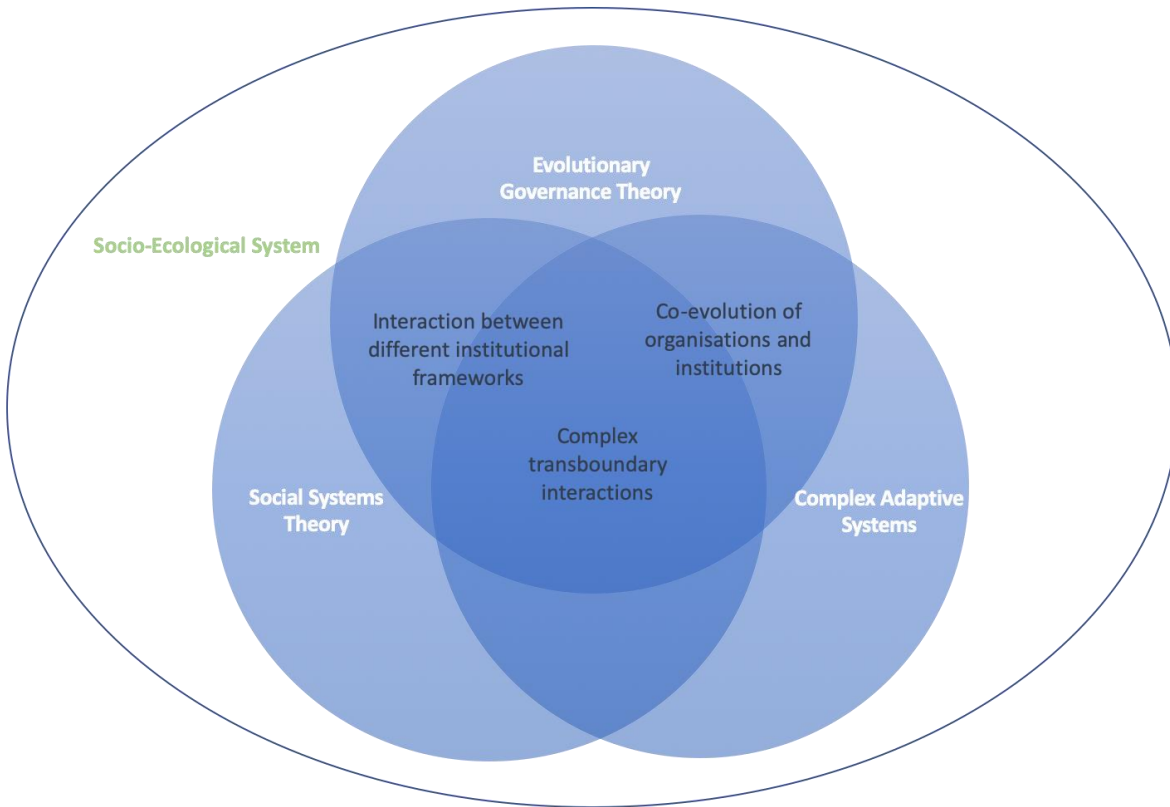


Figure 3: Theoretical framework for institutional integration in transboundary MSP

A hybrid framework is presented from the triangulation of three theories (see Figure 3) as they have similar intellectual origin and are consistent with institutional analysis and framework development by Ostrom (2011). Each of the three aspects and related theoretical lenses are explored in turn below:

Firstly, transboundary MSP involves coordination between differing planning systems and institutional frameworks including stakeholders, organisations, knowledge, and coordination mechanisms (van Tatenhove ,2017; Flannery, 2015). Luhmann’s Social System Theory (SST)⁹

⁹ Niklas Luhmann was one of the first proponent of the social systems theory which is seen as one of the most elaborate theories of society. The theory combines social, communication and evolution theories (Luhmann, 1975) Luhmann’s theory focuses on the reconstruction of society by setting a distinction between system and environment

provides a useful starting point in understanding institutional integration. Niklas Luhmann wrote that:

“Our thesis, namely that there are systems, can now be narrowed down to: there are self-referential systems. This means first of all in an entirely general sense: there are systems that have the ability to establish relations with themselves and to differentiate these relations with their environment” (Luhmann, 1995, p 13).

Communication and interaction between organisations and institutions under the SST, are seen as autopoietic or self-productive, where actors do not communicate with each other, but about each other (Luhmann, 1995; Van Assche and Verschraegen, 2008). For example, an environmental non-governmental organisation (NGO) will respond to a marine plan based on its organisational function which is the “environmental agenda” but yet, as an organisation it can utilise legal communication (Dom et al., 2019). The NGO will use legal communication when engaging with the courts on objections relating to a marine plan. A ruling by a court that the marine plan and zones does not address environmental legislative commitments is a legal communication. However, this legal communication can have economic repercussions for developers and political precedence for decision makers. This is a common feature of the complexity faced by organisations involved in transboundary MSP who are in constant process of adjustments to different communication from political, economic and legal systems (Jay et al., 2016; Jacobs, 2016). Perner and Skjølsvik (2018) presents a framework which illustrates the ongoing process of actors engaging in different institutional work and functions. They argue that institutional working unfolds through four waves; initial impact, response, recovery, and stabilisation. This line of thinking is also reflected in the works of Cloutier et al., (2016) and Greenwood et al., (2014) which promote institutional change through discursive processes.

Understanding institutional integration from the lenses of the SST, affirms the fragmentation experienced in MSP practice due to the national and sector-oriented functions and decision

by stressing that the significance of system building rests not only on the internal ordering of parts into the broader system but in a system’s continuous interactions with its environment. According to Luhmann, the social system is not based on actions or actors as originally proposed by Parson’s systems theory, but on communication (autopoietic). The concept of social systems being autopoietic has been critiqued by some academics (Zeleny and Hufford Kay, 1991; Herting and Stein, 2007) who question if indeed social systems can be classified as autopoietic and its importance for planning since human beings/actors are not part of system of society but part of its environment.

making. Institutional integration here is a mutual adaptive process where organisation and actors take notice of economic, legal and political decisions made within and by other organisations. The use of the SST perspective to analyse institutional integration must consider how actors align their activities. Again, collaborative capacity for differing national rationalities, functions and interests should be considered to understand the effectiveness of transboundary MSP.

Secondly, transboundary MSP comprises interactions between organisations under constant changes which forms an evolutionary path and dependencies that influence integration (Clarke and Flannery, 2019; Kelly, 2018). The Evolutionary Governance Theory (EGT)¹⁰ is selected here to conceptualise the evolutionary aspect of transboundary MSP. The basic thesis of EGT holds that decisions and interactions between actors and institutions are shaped by history, contingencies and bygone are rarely bygone (Sydow et al, 2009; Nooteboom, 1997). One of the main proponents of the EGT, Van Assche states that:

“Governance, the making of and living by collectively binding decisions in any community, is a processual amalgam of the continuous, ever changing, and thus evolutionary interplay of actors, institutions, knowledges and systems of sense-making, in any location and at any point in time” (Van Assche, et. al. 2019, p. 4).

In effect, decisions from the past are likely to influence current decision-making process and the interplay can result in flexibilities and rigidities in governance (Van Assche, et. al. 2019). For example, in Ireland, it is noted that the numerous changes in government departments responsible for the costal and marine issues has led to path dependency and haphazard evolution of institutions which impedes integrated decision making (O’Hagan et al. 2020; Kelly, 2019). These path dependent issues affect the effectiveness to engage a specific department on transnational issue due to loss of institutional memory.

The implication of EGT for analysing institutional integration is that historical context and pre-existing institutional arrangements can affect the outcomes and possibilities for integration. Actors

¹⁰ EGT offers a framework which is built on social systems theory, post-structuralism, and institutional economics. EGT distinguishes between path dependencies (legacies from the past), interdependencies (dependencies in the present between and within actors and institutions and goal dependencies (impact of visions for the future), together making up the rigidity in contingent governance paths.

are embedded in politics and legal frameworks which may have different outlook on why and how MSP works. New forms of integration mechanisms in a transboundary MSP cannot exclude past and existing forms and its evolution (Janßen et al. 2018, p208). The analysis of institutional integration should consider institutional evolution, its impact on decision making as well as how structured interventions have addressed path dependency issues.

Thirdly, transboundary MSP takes place within a complex, uncertain and constantly changing socio-ecological system (Yawson, 2013). We employ the theory of Complex Adaptive Systems (CAS)¹¹ to aid our understanding of integration. CAS is defined as open dynamical systems that are able to self-organise their structural components; they are locally controlled and adaptive to external forces (Turner and Baker, 2019). CAS work on the thesis that:

“Simple systems give rise to complex behaviour and complex systems give rise to simple behaviour” (Gleick, 2008, p. 304).

Essentially, CAS presents a way of analysing institutions by recognising complexity and interrelationships rather than concentrating on cause and effect. It promotes local institutions as the fulcrum of integration through an evolving network of interactions and relationships (Richardson, 2004). CAS recognises the complexity of modern society and having to deal with wicked problems¹². For example, cross-border loughs on the island of Ireland (Flannery et al., 2015; Ritchie et al., 2019) and the Pomeranian Bay between Germany and Poland (Zaucha, 2014 and Giacometti et al. 2017) have to deal with wicked problems such as disputed borders and unclear remits of regulatory bodies.

The relevance of the CAS for our conception of institutional integration is the need to understand how actors deal with constant and complex changes in the socio-ecological system. Variables such

¹¹ Proponents of CAS critique SST as being as unable to address modern complexity and non-linear systems such as the marine ecosystem (Yawson, 2013). Unlike the SST, CAS asserts that the whole system is different from the sum of its parts and their interactions (Richardson, 2004). It is based on 8 tenets including: path dependence, non-linearity, emergence, operates between order and chaos, irreducible, self-organising, systems have history and adaptiveness.

¹² Wicked problems are complications that are indeterminant and uncertain in their formulation and solution between actors with conflicting values (McCall and Burge, 2016)

as self-action and learning between local actors and communities in transboundary areas need to be understood as part of efforts in addressing fragmentation at multiple governance levels.

Combining these three theories presents the following to understand institutional integration, firstly institutional integration is a balancing act of complex activities, interrelationships and decisions as actors co-evolve through various stages overtime secondly. Contingencies can influence the activities and work of actors and finally. capacity dimensions inform how actors adapt to decisions and contingencies. In the next section we use these findings to construct our framework on institutional integration.

5 The Wheel of Institutional Integration for Transboundary MSP

The literature discussed and cited above provides the foundation to formulate an evaluation framework for institutional integration in a transboundary context. We firstly identify the stages of institutional integration and then the common dimensions that can influence activities at each stage (Ostrom 2011, p 9).

5.1 Stages of Institutional Integration

Review of literature (see Section 4) shows that adaptation between institutions and actors is a process of continuous observation, learning and response at national, regional and local levels. Following Perner and Skjølsvik (2018), we adapt the four waves of institutional work to consider its application in a transboundary context called the Wheel of Institutional Integration (Figure 4). To describe how the integration process, actors and their activities evolve over time, we use the metaphor of the wheel. Each section describes a stage and a set of related institutional activities and practices (Table 2). However, set of practices and activities from the previous stage or section of the wheel do not necessarily replace the new ones, they can coexist, switch between stages, some given prominence over the other and not all practices listed are deemed to happen in all cases (Greenwood et al. 2011). The stages and related activities with examples are explained below.

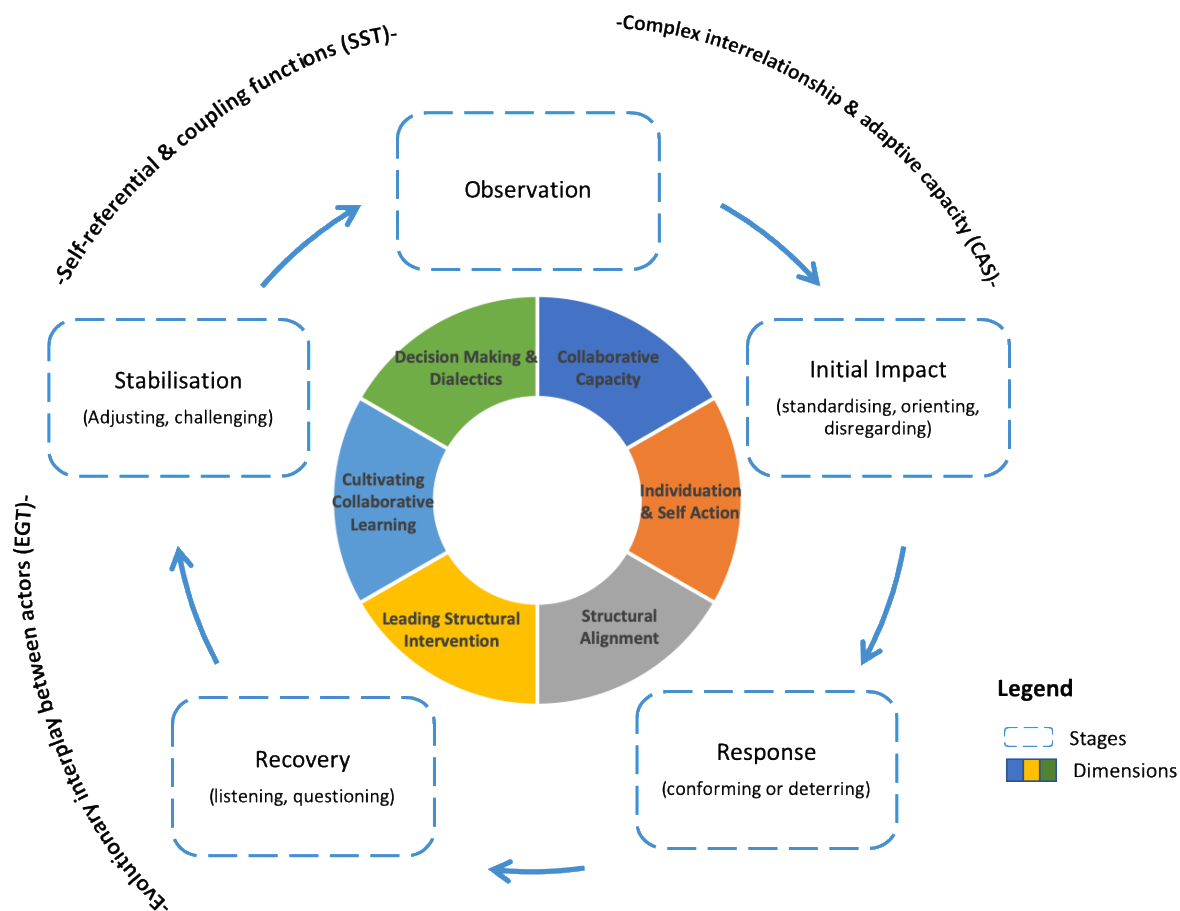


Figure 4: The Wheel of Institutional Integration for Transboundary MSP; adapted from Perner and Skjølsvik (2018)

The first stage on the wheel is *Observation*, where actors observe a transnational policy or neighbouring country's planning decision which causes an institutional shock to respond with regulatory changes such as establishing a marine planning authority. At this stage it is envisaged that there is limited transboundary collaboration between actors at different governance levels on MSP. This stage and related activities were prominent when the EU MSP Directive 2014/89/EU was first introduced. Its introduction included requirements for a marine planning authority to be set up and ensure transboundary cooperation during preparation of marine plans. Member States started considering approaches and mechanisms for adopting the Directive into national legislative frameworks and mechanisms for transboundary cooperation.

The second stage causes an *Initial Impact*, where there is sparse collaboration between transboundary actors. At this stage, actors are involved in preparation and discussions to standardise decisions into national institutional frameworks. However, knowledge exchange between actors is limited. Organisations leading and supporting MSP start understanding different transboundary requirements for MSP, approaches used for MSP by neighbouring countries, and platforms for engagement on MSP. However, some actors might show reluctance or disregard at this stage to ratify transnational or regional agreements and decisions. The Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF)¹³ can be considered as an example of this stage and some of the expected issues. During the inception phase of the CTI-CFF, it was evident that some of the Member Parties were reluctant to ratify the Regional Plan of Action due to changes in government ministers and limited experience of some national actors in engaging at a transnational level (Thomas et al., 2017, p. 42)

The third stage entails a *Response* where there is closed transboundary dialogue but mainly at an inter-organisational level. It is envisaged that actors will show signs of conforming to transboundary agreements and requirements by establishing platforms for coordination at a high level. For instance, an inter-organisational marine planning group was formed in 2018 for jurisdictions in the Irish Sea. The group consisted of senior policy and planning officials from the six marine planning authorities of Ireland, Northern Ireland, England, Scotland, Wales and the Isle of Man. The group met on a 6-monthly basis and served as a platform to discuss latest developments in terms of national plans and planning-related issues of mutual concern or interest (DPHLG, 2018 p 23).

At the *Recovery stage*, there are signs of open dialogue between transboundary actors. Actors will start listening to each other and questioning existing approaches, mechanism for coordination and planning process. It is envisaged that this might lead to new partnerships especially between local stakeholders. Coastal Planning Partnerships that cover border areas between England and Scotland are examples of this stage. Partnerships' such as the Solway Firth Partnership and North West Coastal Forum were used as forums to gather the views of local stakeholders and users in cross-

¹³ The CTI-CFF is a multi-lateral treaty partnership between Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste to collaborate and address marine issues such as food security, climate change and marine biodiversity.

border areas as part of the preparation of the English North-West Plans¹⁴. During such forums there were discussions about how to evolve the Solway Firth Partnership into a Marine Planning Partnership to prepare a regional plan for the Scottish side of the firth (Baruah et al., 2017).

The fifth stage is *Stabilisation* which involves increased knowledge sharing, stakeholder networking, specialised expertise and development of specific transboundary MSP guidelines. At this stage transboundary institutional collaboration is more advanced and there is increased alignment between actors. The HELCOM-VASAB MSP Working Group in the Baltic Sea and the introduction of the Guidelines on Transboundary MSP Consultation is an example of this stage (HELCOM-VASAB, 2016). Such mechanisms and related activities have been used to promote a sea-basin wide thinking and facilitate coherent planning. Again, projects such as Capacity4MSP¹⁵ in the Baltic are examples of this stage where practical collaboration and capacity are promoted through dialogue and knowledge exchange.

These stages are however influenced by dimensions that are discussed in the next section.

Table 2: Stages and Characteristics of Institutional Integration

No.	Stages	Institutional practices and activities
1	Observation	• Lack of transboundary collaboration between actors on MSP
2	Initial Impact	• Sparse collaboration between transboundary actors • Knowledge centralisation • Skewed power balance towards high level organisations
3	Response	• Limited interorganisational transboundary collaboration • Closed dialogue process • Limited expertise and capacity for transboundary MSP
4	Recovery	• Open transboundary dialogue process • Partnerships between transboundary actors especially local stakeholders
5	Stabilisation	• Networking between different actors and knowledge sharing • Local actor representation • Platform to engage less powerful stakeholders' • Specialised expertise • Development of transboundary guidelines and principles

¹⁴ <https://marinedevelopments.blog.gov.uk/2018/03/05/marine-planning-iteration-workshops-consultation/>

¹⁵ <https://vasab.org/project/capacity4msp/>

5.2 *Dimensions of Institutional Integration*

Following methodological implications suggested by (Van Asche et al., 2014, p.5), we selected the main structural variables that are common to analyse institutional arrangements but whose values differ from one organisation to the other. However, these are not all the dimensions that could influence institutional work, practices and activities at each of the stages. These are thematic means to explore specific barriers or enablers influencing actor's ability to coordinate with other decisions. They include: structural alignment, individuation and self-oriented action, decision making and dialectics, cultivating collaborative learning, leading structured intervention and collaborative capacity.

5.2.1 *Structural Alignment*

Structural Alignment¹⁶ include the elements and resources for institutional frameworks across borders to be coherent in the management of marine ecosystem. Epstein et al. (2015) and Guerrero et al., (2015) contend that institutions are likely to succeed or fail in relation to how they are matched with each other and the characteristics of the ecosystem. This dimension is chosen to understand how actors managing shared ecosystems align with decision made by other actors. This is noted within transboundary MSP discourse; van Tatenhove (2017) argues that coherence between discourse that actors use, and governance arrangements are means to influence institutions. The CTI-CFF as a transboundary partnership uses Regional and National Plans of Action as mechanisms to align transboundary discourse between Member States of the Coral Triangle region (Carneiro et al., 2017). However, the level and minimum requirement for alignment should be defined and monitored to ensure that such mechanisms are effective for transboundary institutional integration.

5.2.2 *Individuation and Self-oriented action*

Individuation and self-oriented action involve the creation of an environment for local actors to develop their own plans, influence policy and manage resources. Flannery et al. (2015) advocated for understanding how both sub-national and local institutions could aid the implementation of

¹⁶ Two types of alignment are identified; strategic alignment (coherence of strategies, policies and interests) and organisational alignment (coherence of administrative and institutional arrangement especially at regional and local level).

transboundary MSP. This dimension is chosen in order to analyse how actors especially local stakeholders organise themselves to influence existing institutions. Marine plans developed by First Nations in Canada is an example of self-oriented action where indigenous communities used traditional knowledge to develop local marine plans. The Haida Gwaii traditional territory for example structured their plan around their distinct culture, ethical values and principles¹⁷ nested with regional and sub-regional plans (Jones et al., 2010). Such initiatives give actors the autonomy to mobilise, define problem, objectives and challenge the policy domain.

5.2.3 *Decision making and dialectics*

The outcomes of transboundary MSP are influenced by the evolution between actors and institutions through a dialectic process¹⁸. Legacies from the past have been noted as influencing effective implementation of first generation plans in a positive and negative manner (Kelly, 2019). This dimension is chosen to analyse the evolutionary interplay between actors and understand how institutional transformation can be negotiated, debated, and endorsed through MSP (Tafon et al., 2019; Flannery et al., 2019). For instance, in Britain, coastal partnerships established before MSP have played a positive role in engaging different marine stakeholders between England and Scotland on MSP (Baruah et al., 2017). It critical that some of these informal mechanisms are examined to understand their contribution to transboundary marine governance arrangements.

5.2.4 *Cultivating Collaborative Learning*

The collaborative discovery of knowledge, ideas, practices and learning¹⁹ (local, indigenous and scientific) and the propensity of its cultivation plays a critical role in ensuring that actors adapt to each other through sustained multi-level interaction. Keijser et al., (2020) argues that there is a ‘learning paradox’ in MSP and highlights the limited attention it has received in practice. This dimension is selected to address this knowledge gap and analyse how actors collaborate to generate and share knowledge. In Indonesia, bridging organisations including Reef Check Indonesia, a

¹⁷ Including respect, responsibility, balance, seeking wise counsel, reciprocity and interconnectedness

¹⁸ Dialectics is defined as a process whereby formal and informal institutions transform each other including their functioning, form and space (Van Assche, 2014).

¹⁹ Two types of organisational learning are identified: explorative and exploitation learning. Explorative learning is where the development and use of knowledge leads to innovative changes in the actions and behaviour of an organisation whiles exploitation learning leads to incremental changes based on old certainties (Greve, 2017; March, 1991).

national NGO played a critical role in directing the flow of knowledge between organisations in the development of multi-use zoning plan for the Nusa Penida Marine Protected Area (MPA) (Armitage et al., 2017; Berdej and Armitage, 2016). However, evaluation of learning should consider power processes about who is included and excluded in transboundary MSP.

5.2.5 Leading Structured Intervention

Leadership is critical in channelling proactive and deliberate interventions to change entrenched power relations and path dependency. Armitage et al. (2017) identifies leadership as one of the enabling conditions to instigate change in institutional processes. This dimension was selected to explore how path dependent issues are addressed to bring about transformative change. In Norway, active political leadership was one of the success criteria that changed a fragmented sector-led management to a whole government approach for implementing the Barents Sea Management Plan (Sander, 2018). The delegation of national planning remits without the political will to address transboundary issues such as disputed borders limited efforts towards EBM and continued transboundary working relations (Ansong et al., 2017). This calls for leadership by building trust, transparency and managing conflicts between actors especially in cross-border communities.

5.2.6 Collaborative Capacity

Collaborative capacity is the ability (through foresight, incentives, resources, legal and administrative processes) to foster multi-level collaboration (Kidd and McGowan, 2013). Other MSP authors have referred to it as ‘bordering capabilities’ to formulate a common regional position on MSP (see van Tatenhove ,2017 and Sassen, 2009). This dimension has been selected to understand the ability for transnational actors to undertake roles to formulate and agree on regional positions based on existing collaboration structures. For instance, the Northern Shelf bio-regional MSP governance structure in Canada was designed so that regional and sub-regional actors provided technical capacity and oversight for local marine planners and community technical committees. This was facilitated by a Memorandum of Understanding (MoU) that pushed for cross-jurisdictional planning between first nations, provincial and federal government (Jones et al., 2010).

6 Potential Application of the Wheel of Institutional Integration

The critical and urgent question that this framework can address is: to what extent are transboundary and regional actors, and institutions adapting or adopting transboundary cooperation requirements and decisions? In answering this question and operationalising the framework, we suggest a three-step process and questions to be used by planners and practitioners especially in the social science field in understanding institutional processes for MSP at multi-levels of governance (Figure 5).

1. Defining the context	2. Understanding the context	3. Level of institutional integration
<ul style="list-style-type: none"> Which actors are involved in transboundary coordination and what are their roles? What coordination mechanisms were used? Which practices, activities and events have they been involved in? (Refer to the dimensions defined by the framework) Why did these practices and activities emerge? What were actors' reaction to practices, decisions and approaches taken? 	<ul style="list-style-type: none"> How were activities and rules defined? (Refer to the dimensions defined by the framework) How did such activities and practices emerge? How did they change over time? 	<ul style="list-style-type: none"> Is there a pattern based on the above activities across actors? Does the pattern follow the stages suggested by the framework? How does it differ? Which stage or level of transboundary institutional integration is achieved according to the framework?

Figure 5: Evaluation questions to guide the operationalisation of the framework

These questions and the dimensions identified above should be used to tease out institutional activities, the resulting patterns of interactions and outcomes. Data analysis from such questions with the use of the framework should aid visualising which stage of institutional integration has been achieved. Specifically, the framework can be applied in a pre and post-evaluation manner under the following context:

1. *Pre-evaluation*: It can be applied at the pre-planning stage of the marine plan preparation process to appreciate existing and potential institutional challenges and opportunities for transboundary MSP. Here, previous transboundary initiatives and projects can be considered to understand institutional processes. The results from such an analysis should

give an understanding of the level of institutional integration and how new initiatives can adapt and advance institutional procedures. Again, before starting a transboundary MSP initiative and project, the dimensions can be used to evaluate how organisation and actors interact across borders. This should inform how to adapt existing mechanisms for effective coordination.

2. *Post-evaluation:* In Europe, Member States are at various stages of finalising maritime spatial plans with all plans expected to be established and published latest by 31st March 2021. This framework can serve as a tool in analysing the effectiveness of transboundary institutional engagement. It would be valuable in evaluating transboundary institutions practices since the introduction of the EU MSP Directive 2014/89/EU.

However, the framework should be used with the understanding that activities and their outcomes evolve and manifest themselves over time. Some activities may emerge even before the discussion about MSP. Data collected should consider historical activities and current outcomes to have a thorough understanding of how actors are implementing MSP and transboundary requirements. Furthermore, the framework is developed on the assumption that there is a common regional directive and policy that national organisations and actors are supposed to adopt or adapt into existing national framework. Nevertheless, the framework is still relevant even in cases where there is no regional MSP directive as there are other international and regional marine legislation and strategies such as ICZM that follow similar pattern and coordination between actors.

7 Conclusion and Next Steps

We have reviewed recent literature to understand existing knowledge and gaps have been raised in academia and experienced by practitioners in relation to how institutional complexity impedes transboundary MSP. The review illustrated that more deductive studies on transboundary MSP are needed to understand how institutions can facilitate effective transboundary integration (Saunders et al 2019, Kelly, 2018). Based on our analysis of current literature we make two contributions to existing knowledge: firstly, we define our understanding of institutional integration in a transboundary context and secondly, we develop an evaluation framework based on theoretical perspectives to analyse institutional integration. The framework combines the stages of

institutional adaptation (observation, initial impact, response, recovery and stabilisation) and dimensions that influence the stages (structural alignment, self-oriented actions, learning, collaborative capacity and decision-making dialectics). This is just an initial step in building the framework. There is room to extend this line of thinking and the utility of the framework by:

1. Expanding the set of institutional practices and activities at each stage of the wheel after empirical research, and
2. Expanding the dimensions which are currently theoretically derived, based on key variables identified. The operationalisation of the framework in practice should inform which dimensions are influencing institutional integration to allow generalisability.

Finally, there is the need for detailed case studies to help elaborate the issues and challenges of transboundary MSP as indicated through the framework. Some of the issues raised by the framework have been endorsed by other MSP authors. For instance, Kelly et al (2018) have called for the need for systems and institutional analysis in MSP. Co-evolution between actors and its influence has already been highlighted by Van Asche et al. (2019) and O'Hagan et al. (2020). This paper responds to these calls and promotes a deductive understanding of transboundary MSP. By presenting a broader theoretical perspective, this framework can be adapted to different contexts and can explore detailed cases on institutional working. European and non-European transboundary MSP examples are also presented to show possible context of application and guide any case specific evaluation.

Acknowledgements

We thank the anonymous reviewers for their valuable contributions to this paper.

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